WHAT IS CLAIMED IS:

1. A composition of matter selected from:

a) a substantially pure or recombinant DIRS1 polypeptide comprising at least three distinct nonoverlapping segments of at least four amino acids identical to segments of SEQ ID NO: 2;

b) a substantially pure or recombinant DIRS1 polypeptide comprising at least two distinct nonoverlapping segments of at least five amino acids identical to segments of SEQ ID NO: 2;

c) a natural sequence DIRS1 comprising mature SEQ ID NO: 2;

d) a fusion polypeptide comprising DIRS1 sequence;

e) a substantially pure or recombinant DIRS2 polypeptide comprising at least three distinct nonoverlapping segments of at least ten amino acids identical to segments of SEQ ID NO: 4;

f) a substantially pure or recombinant DIRS2 polypeptide comprising at least two distinct nonoverlapping segments of at least eleven amino acids identical to segments of SEQ ID NO: 4;

g) a natural sequence DIRS2 comprising SEQ ID NO: 4; or

h) a fusion polypeptide comprising DIRS2 sequence.

2. The substantially pure or isolated antigenic:

A) DIRS1 polypeptide of Claim 1, wherein said distinct nonoverlapping segments of identity:

a) include one of at least eight amino acids;

b) include one of at least four amino acids and a second of at least five amino acids;

c) include at least three segments of at least four, five, and six amino acids, or

d) include one of at least twelve amino acids; or

B) DIRS2 polypeptide of Claim 1, wherein said distinct nonoverlapping segments of identity:

a) include one of at least thirteen amino acids;

b) include one of at least eleven amino acids and a second of at least thirteen amino acids;

c) include at least three segments of at least ten, eleven, and twelve amino acids; or

d) include one of at least twenty-five amino acids.

3. The composition of matter of Claim 1, wherein said:

a) DIRS1 polypeptide:

i) comprises a mature sequence of Table 1;

ii) is an unglycosylated form of DIRS1;

iii) is from a primate, such as a human;

iv) comprises at least seventeen amino acids of SEQ ID NO: 2;

v) exhibits at least four nonoverlapping segments of at least seven amino acids of SEQ ID NO: 2;

vi) is a natural allelic variant of DIRS1;

vii) has a length at least about 30 amino acids;

viii) exhibits at least two non-overlapping epitopes which are specific for a primate DIRS1;

ix) is glycosylated;

x) has a molecular weight of at least 30 kD with natural glycosylation;

xi) is a synthetic polypeptide;

xii) is attached to a solid substrate;

xiii) is conjugated to another chemical moiety;

xiv) is a 5-fold or less substitution from natural sequence; or

xv) is a deletion or insertion variant from a natural sequence; or

b) DIRS2 polypeptide:

i) comprises a mature sequence of Table 2;

ii) is an unglycosylated form of DIRS2;
iii) is from a primate, such as a human;
iv) comprises at thirty-five amino acids of SEQ ID NO: 4;
v) exhibits at least four nonoverlapping segments of at least twelve amino acids of SEQ ID NO: 4;
vi) is a natural allelic variant of DIRS2;
vii) has a length at least about 30 amino acids;
viii) exhibits at least two non-overlapping epitopes which are specific for a primate DIRS2;
ix) is glycosylated;
x) has a molecular weight of at least 30 kD with natural glycosylation;
xi) is a synthetic polypeptide;
xii) is attached to a solid substrate;
xiii) is conjugated to another chemical moiety;
xiv) is a 5-fold or less substitution from natural sequence; or
xv) is a deletion or insertion variant from a natural sequence.

4. A composition comprising:
a) a substantially pure DIRS1 and another Interferon Receptor family member;
b) a substantially pure DIRS2 and another Interferon Receptor family member;
c) a sterile DIRS1 polypeptide of Claim 1;
d) a sterile DIRS2 polypeptide of Claim 1;
e) said DIRS1 polypeptide of Claim 1 and a carrier, wherein said carrier is:
i) an aqueous compound, including water, saline, and/or buffer; and/or
ii) formulated for oral, rectal, nasal, topical, or parenteral administration; or

f) said DIRS2 polypeptide of Claim 1 and a carrier, wherein said carrier is:
i) an aqueous compound, including water, saline, and/or buffer; and/or
ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

5. The fusion polypeptide of Claim 1, comprising:
a) mature protein sequence of Table 1;
b) mature protein sequence of Table 2;
c) a detection or purification tag, including a FLAG, His6, or Ig sequence; or
d) sequence of another interferon receptor protein.

6. A kit comprising a polypeptide of Claim 1, and:
a) a compartment comprising said protein or polypeptide; or
b) instructions for use or disposal of reagents in said kit.

7. A binding compound comprising an antigen binding site from an antibody, which specifically binds to a natural:
A) DIRS1 polypeptide of Claim 1, wherein:
a) said binding compound is in a container;
b) said DIRS1 polypeptide is from a human;
c) said binding compound is an Fv, Fab, or Fab2 fragment;
d) said binding compound is conjugated to another chemical moiety; or
e) said antibody:
i) is raised against a peptide sequence of a mature polypeptide of Table 1;
ii) is raised against a mature DIRS1;
iii) is raised to a purified human DIRS1;
iv) is immunoselected;
v) is a polyclonal antibody;

vi) binds to a denatured DIRS1;
vii) exhibits a Kd to antigen of at least 30 μM;
viii) is attached to a solid substrate, including a bead or plastic membrane;
ix) is in a sterile composition; or
x) is detectably labeled, including a radioactive or fluorescent label; or

B) DIRS2 polypeptide of Claim 1, wherein:
a) said binding compound is in a container;
b) said DIRS2 protein is from a human;
c) said binding compound is an Fv, Fab, or Fab2 fragment;
d) said binding compound is conjugated to another chemical moiety; or
e) said antibody:
i) is raised against a peptide sequence of a mature polypeptide of Table 2;
ii) is raised against a mature DIRS2;
iii) is raised to a purified human DIRS2;
iv) is immunoselected;
v) is a polyclonal antibody;
vi) binds to a denatured DIRS2;
vii) exhibits a Kd to antigen of at least 30 μM;
viii) is attached to a solid substrate, including a bead or plastic membrane;
ix) is in a sterile composition; or
x) is detectably labeled, including a radioactive or fluorescent label.

8. A kit comprising said binding compound of Claim 7, and:
a) a compartment comprising said binding compound; or
b) instructions for use or disposal of reagents in said kit.

9. A method of producing an antigen:antibody complex, comprising contacting under appropriate conditions:

a) a primate DIRS1 polypeptide with an antibody of Claim 7A; or

b) a primate DIRS2 polypeptide with an antibody of Claim 7B;

thereby allowing said complex to form.

10. The method of Claim 9, wherein:

a) said complex is purified from other interferon receptors;

b) said complex is purified from other antibody;

c) said contacting is with a sample comprising an interferon;

d) said contacting allows quantitative detection of said antigen;

e) said contacting is with a sample comprising said antibody; or

f) said contacting allows quantitative detection of said antibody.

11. A composition comprising:

a) a sterile binding compound of Claim 7; or

b) said binding compound of Claim 7 and a carrier, wherein said carrier is:

i) an aqueous compound, including water, saline, and/or buffer; and/or

ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

12. An isolated or recombinant nucleic acid encoding said:

A) DIRS1 polypeptide of Claim 1, wherein said:

a) DIRS1 is from a human; or

b) said nucleic acid:

i) encodes an antigenic peptide sequence of Table 1;

ii) encodes a plurality of antigenic peptide sequences of Table 1;

iii) exhibits identity over at least thirteen nucleotides to a natural cDNA encoding said segment;

iv) is an expression vector;

v) further comprises an origin of replication;

vi) is from a natural source;

vii) comprises a detectable label;

viii) comprises synthetic nucleotide sequence;

ix) is less than 6 kb, preferably less than 3 kb;

x) is from a primate;

xi) comprises a natural full length coding sequence;

xii) is a hybridization probe for a gene encoding said DIRS1; or

xiii) is a PCR primer, PCR product, or mutagenesis primer; or

B) DIRS2 polypeptide of Claim 1, wherein said:

a) DIRS2 is from a human; or

b) said nucleic acid:

i) encodes an antigenic peptide sequence of Table 2;

ii) encodes a plurality of antigenic peptide sequences of Table 2;

iii) exhibits identity over at least 30 nucleotides to a natural cDNA encoding said segment;

iv) is an expression vector;

v) further comprises an origin of replication;

vi) is from a natural source;

vii) comprises a detectable label;

viii) comprises synthetic nucleotide sequence;

ix) is less than 6 kb, preferably less than 3 kb;

x) is from a primate;

xi) comprises a natural full length coding sequence;

xii) is a hybridization probe for a gene encoding said DIRS2; or

xiii) is a PCR primer, PCR product, or mutagenesis primer.

13. A cell or tissue comprising said recombinant nucleic acid of Claim 12.

14. The cell of Claim 13, wherein said cell is:

a) a prokaryotic cell;
b) a eukaryotic cell;
c) a bacterial cell;
d) a yeast cell;
e) an insect cell;
f) a mammalian cell;
g) a mouse cell;
h) a primate cell; or
i) a human cell.

15. A kit comprising said nucleic acid of Claim 12, and:

a) a compartment comprising said nucleic acid;
b) a compartment further comprising a primate DIRS1 polypeptide;
c) a compartment further comprising a primate DIRS2 polypeptide; or
d) instructions for use or disposal of reagents in said kit.

16. A nucleic acid which:

a) hybridizes under wash conditions of 30 minutes at 30° C and less than 2M salt to the coding portion of SEQ ID NO: 1;

b) hybridizes under wash conditions of 30 minutes at 30° C and less than 2M salt to the coding portion of SEQ ID NO: 3;

c) exhibits identity over a stretch of at least about 30 nucleotides to a primate DIRS1; or

d) exhibits identity over a stretch of at least about 30 nucleotides to a primate DIRS2.

17. The nucleic acid of Claim 16, wherein:

a) said wash conditions are at 45° C and/or 500 mM salt; or

b) said stretch is at least 55 nucleotides.

18. The nucleic acid of Claim 16, wherein:

a) said wash conditions are at 55° C and/or 150 mM salt; or

b) said stretch is at least 75 nucleotides.

19. A method of modulating physiology or development of a cell or tissue culture cells comprising contacting said cell with an agonist or antagonist of a mammalian DIRS1 or DIRS2.

20. The method of Claim 19, wherein said cell is transformed with a nucleic acid encoding a DIRS1 or DIRS2 and another cytokine receptor subunit.